Compact medium speed thick film thermal printhead (8dots / mm)

KD2003-CG10A

KD2003-CG10A is suitable for devices, such as high-speed POS and label printer applications, that require thermal printheads capable of higher printing rates. Improved power circuit design means that with heavier current it is possible to print at speeds as high as 150 mm/s. The GK Series is the thus ideal for label printers that need high printing rates.

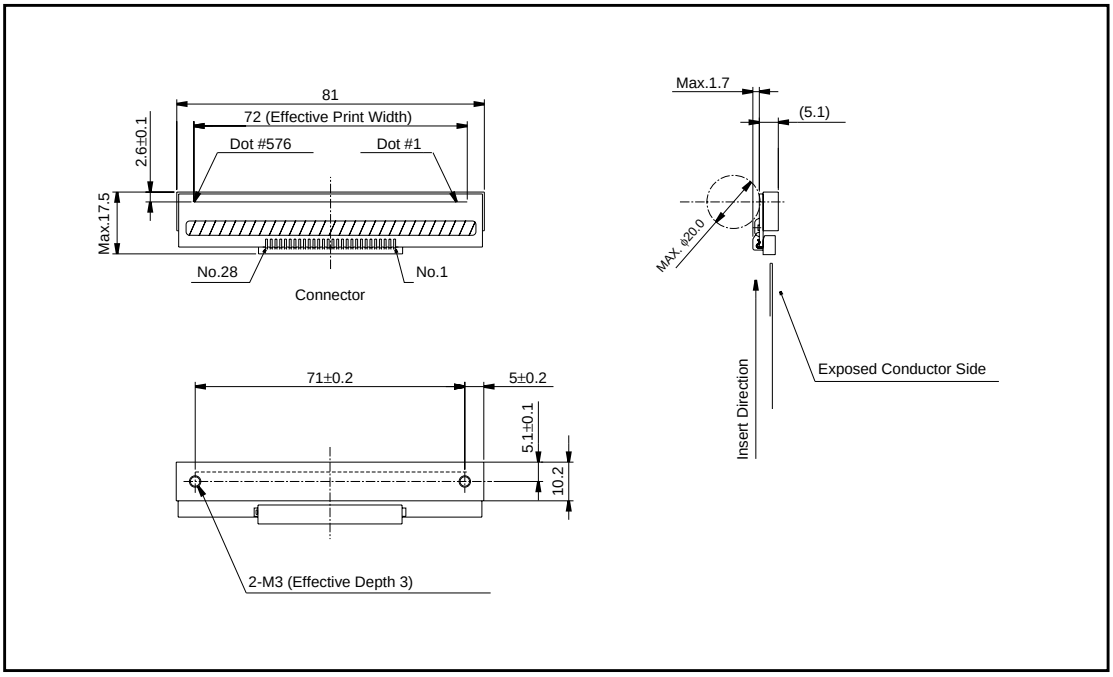
●Applications

POS terminals, Label printers, CAT terminals, Multi-purpose small-sized printers

●Features

1) Using a special compact partial glaze and new heating element structure, achieves high-speed printing at 150 mm/s.
2) The use of the newly developed highly-durable conductive protective film has improved countermeasures against static electricity.
3) The VH and GND sections of the power circuitry have been strengthened so that heavier current can be applied.
4) Ultra small connectors, designed to conform with FFCs, and miniature driver chips have been used. Although the resulting printheads are surprisingly compact and lightweight, they can be used with large platens of up to 20 mm in diameter.
5) One rank resistance value of 800Ω ± 3% eliminates the inconvenience of rank selection.
6) The required driving voltage of 3.15 to 5.25V allows wide range of power supply voltage setting. This also allows multiple choice of electronic components for printers.
7) 2-inch, 3-inch and 4-inch series are available.

●External dimensions (Unit : mm)



●**Equivalent circuit**

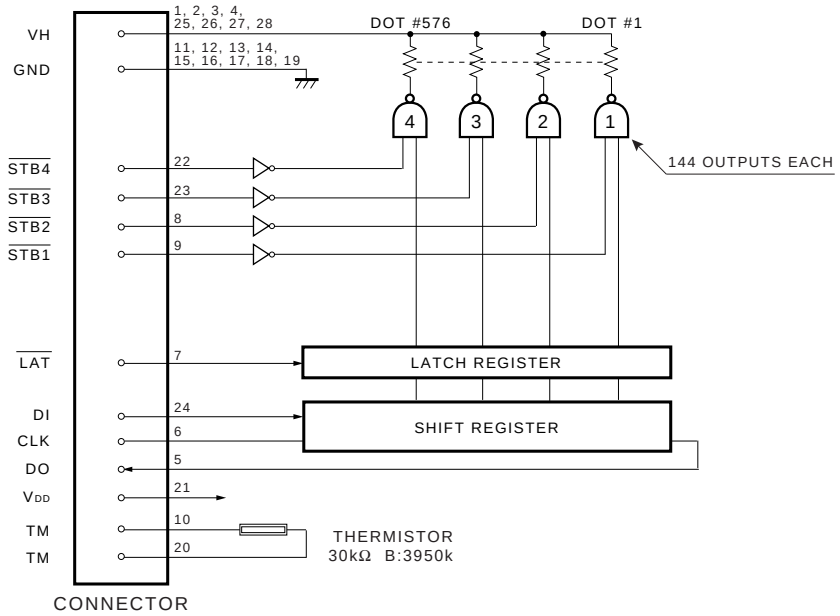


Fig.1

●**Pin assignments**

No.	Circuit
1	VH
2	VH
3	VH
4	VH
5	DO
6	CLK
7	$\overline{LAT}$
8	$\overline{STB2}$
9	$\overline{STB1}$
10	TM
11	GND
12	GND
13	GND
14	GND

No.	Circuit
15	GND
16	GND
17	GND
18	GND
19	GND
20	TM
21	V_{DD}
22	$\overline{STB4}$
23	$\overline{STB3}$
24	DI
25	VH
26	VH
27	VH
28	VH

●**Timing chart**

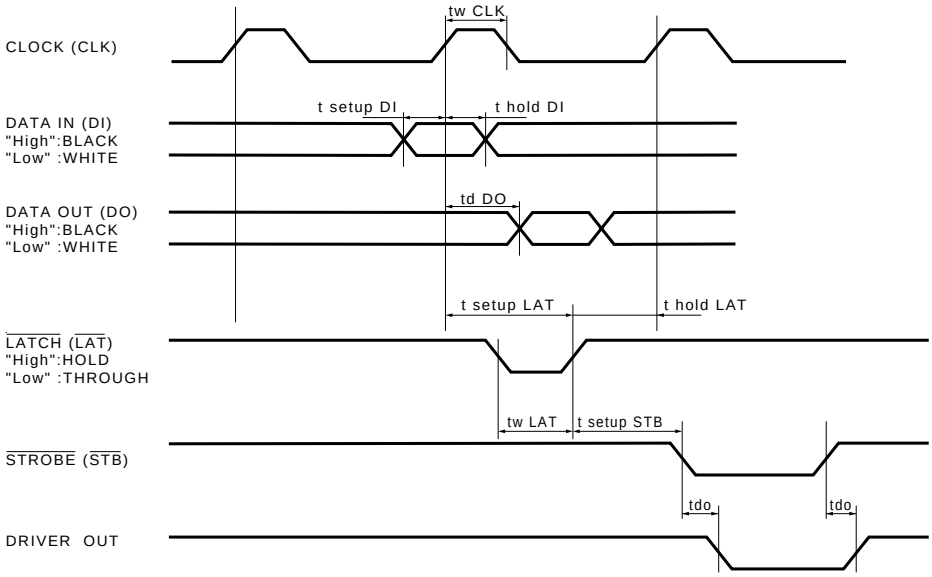


Fig.2

●**Characteristics**

Parameter	Symbol	Typical	Unit
Effective printing width	–	72.0	mm
Dot pitch	–	0.125	mm
Total dot number	–	576	dots
Average resistance value	Rave	800	Ω
Applied voltage	V_H	24.0	V
Applied power	P_O	0.59	W/dot
Print cycle	SLT	1.0	ms
Pulse width	T_{ON}	0.43	ms
Maximum number of dots energized simultaneously	–	288	dots
Maximum clock frequency	–	16	MHz
Maximum roller diameter	–	ϕ20.0	mm
Running life / pulse life	–	$50/5\times10^7$	km/pulses
Operating temperature	–	5 to 45	°C

●**Electrical characteristic curves**

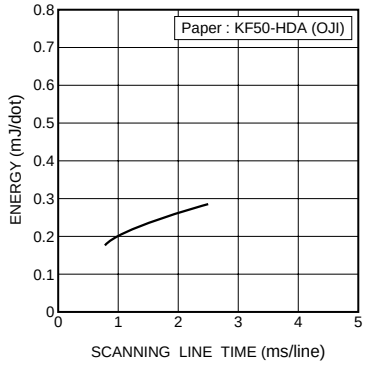


Fig.3 Adaptive speed chart

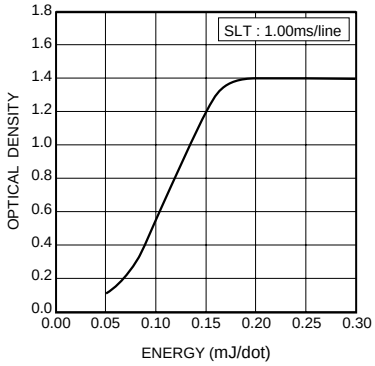


Fig.4 Representative density curve

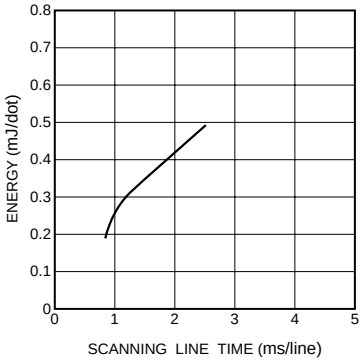


Fig.5 Maximum energy curve

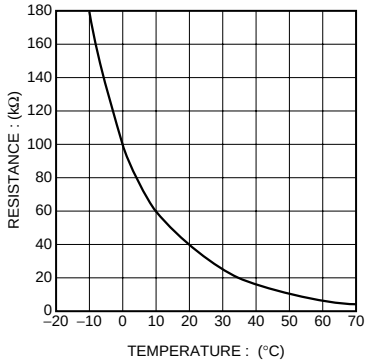


Fig.6 Thermistor curve

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